DIRECT TESTIMONY
OF
CAROLINA POWER & LIGHT COMPANY WITNESS
BRENDA E. BRICKHOUSE

SCPSC DOCKET NO. 94-637-E

Q. Please state your name and business address.

A: My name is Brenda Brickhouse and my business address is 411 Fayetteville Street Mall, Raleigh, North Carolina 27602.

Q. What is your experience and current position with CP&L?

A: I am a Senior Specialist in Transmission Engineering. I have worked in the Transmission Department at CP&L for over 14 years. I have a Bachelor of Science in Forestry and a Master of Public Affairs from North Carolina State University; in both programs, I focused on environmental policy and planning. As a Senior Specialist in Transmission Engineering, I am responsible for the siting and environmental planning of new facilities and any environmental permits required for these facilities.

Q. Please describe the major utility facility CP&L proposes to build on the south side of the town of Cheraw.

A: The proposed 230 kV/23 kV substation will have overall fence dimensions of 215 feet by 165 feet. The fence will have 7-foot-high chain link fabric and three strands of barbed wire for a total height of eight feet. A 20-foot-wide, 175-foot-long driveway will provide access to the substation from Cash Road. All disturbed areas outside the substation pad, access road, and ditches will be planted with approximately 350 wax myrtle shrubs (*Myrica cerifera*). These shrubs, 3-gallon size, will be spaced 10 feet apart. The galvanized steel structures will consist of tapered tubular poles for the

high voltage bus with maximum heights of approximately 51 feet and 8-inch-square tubes on concrete foundations for the low voltage buses with maximum heights of approximately 30 feet. The major equipment will include a 230/23 kV 25 MVA transformer, a 23 kV regulator, 230 kV circuit switcher, three 23 kV circuit breakers, and a 23 kV capacitor bank. Initially, two 23 kV distribution lines will exit the substation to the west and turn north to Stanley Road.

The proposed 230 kV transmission line will utilize light-duty steel single-pole structures supporting three 795 mcm 45/7 ACSR conductors and one 3/8" high strength steel overhead ground wire. Each conductor will be supported by polymer line post insulators or horizontal-vee insulators in a delta configuration. These structures will average 90 feet in height and will be spaced approximately 690 feet apart. This represents a refinement of the data in the certificate application since engineering has progressed.

The right-of-way corridor for this proposed line will be 70 feet wide and adjacent to and overlapping the existing railroad corridor. All woody vegetation will be cut within this corridor. This will be accomplished by hand cutting using chain saws or similar hand-operated equipment. Cut vegetation will be chipped or otherwise cut into small pieces and left on the right-of-way; any large debris that would impede construction will be moved to the edge of the corridor. Any areas disturbed by the clearing or construction operations will be restored to original contours and seeded. Danger trees, i.e. those trees outside the right-of-way corridor that are tall enough to endanger the line, will be selectively hand cut.

Q. Exactly where will it be located?

A: Exhibit 1 to my testimony is a map of Cheraw showing the location of the proposed transmission line and substation. As you can see from this exhibit, the proposed Cheraw Cash Road 230 kV Substation and approximately one mile of new 230 kV transmission line will be located in Chesterfield County, on the south side of Cheraw. The substation is southwest of the intersection of Cash Road and Stanley Road. The proposed Cheraw Cash Road 230 kV Tap Transmission Line will tap the existing Cheraw Reid Park 230 kV Tap Line and proceed north along an existing railroad corridor parallel to Cash Road approximately one mile to the proposed Cheraw Cash Road 230 kV Substation.

Q. Why is this the most appropriate location?

A: This location is the most appropriate for several reasons. The new substation is within one mile of at least 25 MVA of existing load near the industrial load center in Cheraw. In addition, most of the future spot loads that have been identified are within the same one mile radius. The proposed Cheraw Cash Road 230 kV transmission project was located to minimize wetlands impacts, to be near the load center, and to minimize the distance and impacts of the transmission line. The proposed transmission line route follows a direct route, which will impact the least amount of land area. One alternative route was considered for this project, but was rejected on land use considerations. This route is shown on Exhibit 1 and follows Cash Road to the substation site. Cash Road is planned to be widened by the South Carolina Department of Highways and Public Transportation, thus, a transmission line adjacent to the road would create a conflict. Additionally, the alternative route is closer to existing residences than the proposed route.

Q. Please describe the environmental impact of constructing this major utility facility.

A: The area of the proposed project will be constructed is mostly composed of pine with some mixed hardwood forest. Approximately half of the substation site is cleared. Additionally, the line crosses the edge of several agricultural fields. The proposed transmission line corridor crosses two intermittent drainage areas where the dominant vegetation changes to mixed hardwoods including red maple and sweet gum. The hydrology will not be altered in these areas and no unauthorized fill or discharge will be made to any wetlands.

The proposed Cheraw Cash Road 230 kV transmission project will require clearing approximately 7 acres of forest. This will result in converting a corridor to an open grass, forb, and low shrub community of native vegetation. The clearing of the corridor will benefit those species that favor an open, disturbed habitat. Many threatened or endangered plants succeed in such areas and may colonize the proposed corridor. Carolina Power & Light currently manages eleven sites of rare, threatened or endangered plants on its powerline rights-of-way.

Wildlife species found in such habitats include the white-tailed deer, the Eastern cottontail, and the Eastern gray squirrel. Upland game birds in this habitat type include the Northern bobwhite, the American woodcock, and the mourning dove. A diversity of nongame species including songbirds and many species of amphibians and reptiles would also be expected to occur in the area. The proposed right-of-way corridor will benefit those species that prefer a habitat edge such as deer, raccoon, cottontail, dove, quail, treefrogs, etc. The proposed transmission project will not impact any known threatened or endangered species. A survey was conducted for the red-cockaded woodpecker; no cavity trees or evidence of woodpecker activity was

found. Fragmentation of habitat is not a concern since the proposed line follows an existing corridor and the substation site is located at an intersection of two roads.

The proposed Cheraw Cash Road 230 kV transmission project will not impact any known archaeological or historical resources. The South Carolina Department of Archives and History has reviewed this project and noted no properties of architectural, historic, or archaeological significance which would be affected by the proposed transmission line.

Currently this area is undeveloped. Previously, it has experienced some logging and agriculture as well as the construction of drainage ditches. Transportation via the rail corridor is the current land use immediately adjacent to the proposed line. The substation site is undeveloped.

The proposed Cheraw Cash Road 230 kV transmission project will be visible to the public from Cash Road only at the location of the Cheraw Cash Road 230 kV Substation. The substation will be landscaped using native species similar to the surrounding landscape. Along the proposed route, the proposed transmission line will blend with the surrounding landscape since the structures are made of corten steel (a brown color). Additionally, following an existing rail corridor will confine the visual impact to an area already affected by the railroad.

Q. Has CP&L taken all reasonable steps to minimize the environmental impact of the project?

A: Yes, environmental and land use impacts of this project were minimized during the initial siting process. The proposed transmission line route follows a direct route, which will impact the least amount of land area. The visibility of the proposed transmission line will be minimal and limited to an area already impacted by existing

transmission facilities. The transmission line clearing and construction activities are designed to minimize environmental impacts. The wet areas will be hand cut, and structures will be located outside of these areas as much as practicable. Additionally, the proposed corridor will benefit those plant and animal species that favor an open or edge habitat; this includes some rare, threatened, and endangered plant species found in similar situations along other CP&L powerlines.

Q. Please describe how CP&L determined the appropriate location for the major utility facility.

A: The proposed Cheraw Cash Road 230 kV transmission project was located to minimize environmental impacts, to be near the load center, and to minimize the distance and impacts of the transmission line. CP&L studied the area using aerial photography, USGS topographic maps, field reconnaissance, and input from various resource agencies. We developed alternative routes, evaluated them, and selected the route that minimizes environmental and land use impacts.

Q. Do you have a second exhibit you wish to discuss?

A: Yes, Exhibit 2 to my testimony is the Application for a Certificate of Environmental Compatibility and Public Convenience and Necessity filed by CP&L on September 26, 1994. It complies with all the requirements of S.C. Code Ann. § 58-33-10 et. seq.

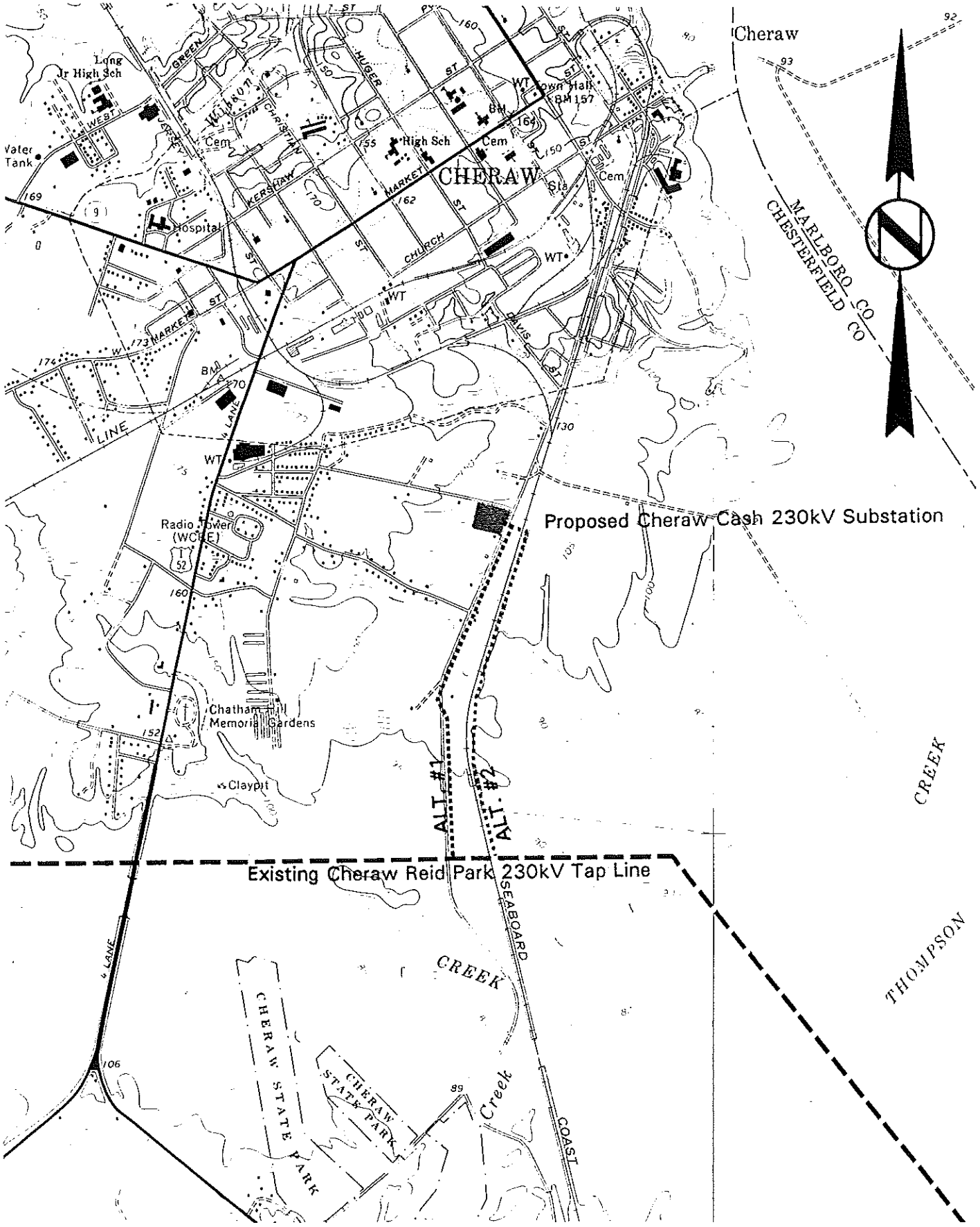
Q. Will the proposed major utility facility conform to all applicable State and local laws and regulations?

A: Yes. There will be no unauthorized dredged or fill material placed in wetlands. Sedimentation control will be accomplished in accordance with the Policy and Procedures Manual filed with the South Carolina Public Service Commission. All

work will be accomplished in accordance with the National Pollutant Discharge Elimination System General Permit for Stormwater Discharges administered by the SC Department of Health and Environmental Control.

Q. Does this conclude your testimony?

A: Yes.



Carolina Power & Light Company
Cheraw Cash Road 230 kV Tap Transmission Line

Exhibit 1
Topographic Map